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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,067	12/06/2001	Davide Mandato	450117-03704	9049

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FROMMER LAWRENCE & HAUG
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EXAMINER
BATURAY, ALICIA

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 September 2005</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>24-47</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>24-47</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>06 December 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date <u>12062001</u>.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1.   This Office Action is in response to a request for continued examination under 37 CFR

1.114, including the fee set forth in 37 CFR 1.17(e), which was filed in this application after

final rejection.   Since this application is eligible for continued examination under 37 CFR

1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the

previous Office action has been withdrawn pursuant to 37 CFR 1.114.   Applicant's

submission filed on 30 September 2005 has been entered.

2.   Claim 24 was amended.

3.   Claim 47 was added.

4.   Claims 24-47 are pending in this Office Action.

Response to Amendment

5.   Applicant's amendments and arguments with respect to claims 24-46 and new claim 47

filed on 30 September 2005 have been fully considered but they are deemed to be moot in

view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.   Claims 24-40 and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Zinky and further in view of Mei et al. (U.S. 6,816,907).

        Zinky teaches the invention substantially as claimed including a system that determines

the quality of service and regulates activity within the distributed system based on the

determined quality of service.

8.   With respect to claim 24, Zinky teaches a computer program, stored in a tangible storage

medium, for managing quality of service, the program representing middleware and

comprising executable instructions that cause a computer to:

        Configure an application programming interface (Zinky, col. 9, lines 47-50) as a data

model describing quality-of-service contracts (Zinky, col. 5, line 66 – col. 6, line 4) and

quality-of-service adaptation paths (Zinky, col. 8, lines 48-56) as specified by quality-of-

service aware mobile multimedia applications (Zinky, col. 2, lines 61-63) using the

application programming interface, in order to manage quality-of-service and mobility-aware

for managing network connections with other applications (Zinky, col. 6, lines 22-30).

        Zinky does not explicitly teach where the middleware is adapted to negotiate with

communication peers.

         However, Mei teaches where a quality-of-service adaptation path defines an adaptation

policy identifying quality-of-service specifications (Mei, col. 5, lines 44-54) and allows

quality-of-service changes (Mei, col. 7, lines 41-44), and where the middleware is adapted

(Mei, col. 5, lines 23-28) to negotiate with communication peers to generate adaptation paths

(Mei, col. 7, lines 11-30), to measure the actual quality-of-service (Mei, col. 5, line 66 – col. 6, line 2), and to solve any quality-of-service problem by deciding which of the possible adaptations to perform (Mei, col. 7, lines 11-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zinky in view of Mei in order to enable the middleware to be adapted to negotiate with communication peers. One would be motivated to do so in order to facilitate the use of differentiated services, which are especially effective in gaining customer loyalty when traffic is heavy and it is desirable for a customer to have fast access to Web content.

9.   With respect to claim 25, Zinky teaches the invention described in claim 24, including the computer program where the adaptation paths are expressed as hierarchical finite state machines based on quality-of-service contexts (Zinky, col. 6, lines 22-36). The Authoritative Dictionary of IEEE Standards Terms defines a finite state machine as "a computational model consisting of a finite number of states and transitions between those states, possibly with accompanying actions." Zinky teaches a contract that detects a transition condition that results in one of three regions of QoS.

10.   With respect to claim 26, Zinky teaches the invention described in claim 25, including the computer program where a quality-of-service context identifies an arrangement of quality-of-service specifications to be enforced throughout a given set of streams (Zinky, col. 6, lines 7-11).

11.   With respect to claim 27, Zinky teaches the invention described in claim 25, including the computer program where the hierarchical finite state machines comprise controllable states in the context of streams at the lowermost level (Zinky, col. 7, lines 26-36).

12.   With respect to claim 28, Zinky teaches the invention described in claim 25, including the computer program where quality-of-service synchronization is provided so as to ensure that some user's given constraints on quality-of-service are globally enforced throughout a given set of streams (Zinky, col. 3, lines 60-67).

13.   With respect to claim 29, Zinky teaches the invention described in claim 24, including the computer program where the specification of the quality-of-service contracts comprises hysteresis parameters for the transition between quality-of-service states (Zinky, col. 9, lines 51-56).

14.   With respect to claim 30, Zinky teaches the invention described in claim 24, including the computer program where the specification of the quality-of-service contracts comprises utility parameters defining user's perceived utility factors associated with the respective quality-of-service contract (Zinky, col. 6, lines 12-21).

15.   With respect to claim 31, Zinky teaches the invention described in claim 24, including the computer program further characterizing executable instructions that cause a computer to provide an application handler unit to offer the application programming interface for

providing quality-of-service aware mobile multimedia applications with the possibility of

managing network connections with other applications (Zinky, col. 5, line 66 – col. 6, line 4).

16.   With respect to claim 32, Zinky teaches the invention described in claim 31, including the

computer program where the application handler unit registers requests for notification

events from applications and generates such events whenever the corresponding triggering

conditions occur (Zinky, col. 7, lines 52-57).

17.   With respect to claim 33, Zinky teaches the invention described in claim 31, including the

computer program where the application handler unit operates on the basis of a data model

comprising streams, quality-of-service context (Zinky, col. 6, lines 7-11), quality-of-service

associations and adaptation paths (Zinky, col. 8, lines 48-56) modeled as hierarchical finite

state machines (Zinky, col. 6, lines 22-36).

18.   With respect to claim 34, Zinky teaches the invention described in claim 33, including the

computer program where the application handler unit creates for each unidirectional stream

an instance of a chain controller for handling data plane and quality-of-service control plane

related issues (Zinky, col. 7, lines 6-18).

19.   With respect to claim 35, Zinky teaches the invention described in claim 34, including the

computer program where the chain controller compares the quality-of-service requirements

of a user with actual values of monitored parameters and configures a chain of multimedia components accordingly (Zinky, col. 7, lines 38-57).

20.   With respect to claim 36, Zinky teaches the invention described in claim 35, including the computer program where the chain controller creates and manages a transport service interface socket, whereby the multimedia components directly exchange data through the transport service interface socket (Zinky, col. 5, lines 52-65).

21.   With respect to claim 37, Zinky teaches the invention described in claim 34, including the computer program where the chain controller monitors and controls the local resources required to process the given stream by using resource managers (Zinky, col. 9, lines 30-38).

22.   With respect to claim 38, Zinky teaches the invention described in claim 34, including the computer program further comprising executable instructions that cause a computer to configure a quality-of-service broker for managing overall local resources by managing the whole set of streams via the chain controllers (Zinky, col. 5, lines 23-30).

23.   With respect to claim 39, Zinky teaches the invention described in claim 38, including the computer program where the quality-of-service broker manages system-wide resources via resource controllers (Zinky, col. 9, lines 30-38).

24.   With respect to claim 40, Zinky teaches the invention described in claim 38, including the

computer program where the quality-of-service broker controls end-to-end quality-of-service

negotiation by using a session manager (Zinky, col. 3, lines 60-67).

25.   With respect to claim 43, Zinky teaches the invention described in claim 34, including the

computer program where the application handler unit and the various instances of the chain

controller are forming an application handler cluster (Zinky, col. 4, lines 20-31).

26.   With respect to claim 44, Zinky teaches the invention described in claim 42, including the

computer program where the application handler cluster and the quality-of-service broker

cluster are included in one open distributed processing capsule (Zinky, col. 5, lines 10-18).

27.   With respect to claim 45, Zinky teaches the invention described in claim 42, including the

computer program where the application handler cluster and the quality-of-service broker

cluster are included in separate open distributed processing capsules (Zinky, col. 5, lines 10-

18).

28.   With respect to claim 46, Zinky teaches the invention described in claim 45, including the

computer program where the application handler cluster being included in one open

distributed processing capsule is installed on a given local node and the quality-of-service

broker cluster being included in separate open distributed processing capsule is installed on a

separate open distributed processing node, whereby a proxy quality-of-service broker is installed on the given local node (Zinky, col. 5, lines 11-16).

29.   Claim 47 does not teach or define any new limitations above claim 24 and therefore is rejected for similar reasons.

30.   Claims 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zinky in view of Mei and further in view of Cardei et al. ("Hierarchical Architecture for Real-Time Adaptive Resource Management").

Zinky teaches the invention substantially as claimed including a system that determines the quality of service and regulates activity within the distributed system based on the determined quality of service.

31.   With respect to claim 41, Zinky teaches the invention described in claim 38, including a computer program, stored in a tangible storage medium, for managing quality of service, the program representing middleware and comprising executable instructions that cause a computer to:

Configure an application programming interface (Zinky, col. 9, lines 47-50) as a data model describing quality-of-service contracts (Zinky, col. 5, line 66 – col. 6, line 4) and quality-of-service adaptation paths (Zinky, col. 8, lines 48-56) as specified by quality-of-

service aware mobile multimedia applications (Zinky, col. 2, lines 61-63) using the application programming interface, in order to manage quality-of-service and mobility-aware for managing network connections with other applications (Zinky, col. 6, lines 22-30).

Zinky does not explicitly teach where the middleware is adapted to negotiate with communication peers.

However, Mei teaches where a quality-of-service adaptation path defines an adaptation policy identifying quality-of-service specifications (Mei, col. 5, lines 44-54) and allows quality-of-service changes (Mei, col. 7, lines 41-44), and where the middleware is adapted (Mei, col. 5, lines 23-28) to negotiate with communication peers to generate adaptation paths (Mei, col. 7, lines 11-30), to measure the actual quality-of-service (Mei, col. 5, line 66 – col. 6, line 2), and to solve any quality-of-service problem by deciding which of the possible adaptations to perform (Mei, col. 7, lines 11-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zinky in view of Mei in order to enable the middleware to be adapted to negotiate with communication peers. One would be motivated to do so in order to facilitate the use of differentiated services, which are especially effective in gaining customer loyalty when traffic is heavy and it is desirable for a customer to have fast access to Web content.

Zinky teaches a computer program, stored in a tangible storage medium, for managing quality of service, the program representing middleware and comprising executable instructions that cause a computer to:

Configure an application programming interface (Zinky, col. 9, lines 47-50) as a data model describing quality-of-service contracts (Zinky, col. 5, line 66 – col. 6, line 4) and

quality-of-service adaptation paths (Zinky, col. 8, lines 48-56) as specified by quality-of-service aware mobile multimedia applications (Zinky, col. 2, lines 61-63) using the application programming interface, in order to manage quality-of-service and mobility-aware for managing network connections with other applications (Zinky, col. 6, lines 22-30).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zinky in view of Mei in order to enable the middleware to be adapted to negotiate with communication peers. One would be motivated to do so in order to facilitate the use of differentiated services, which are especially effective in gaining customer loyalty when traffic is heavy and it is desirable for a customer to have fast access to Web content.

The combination of Zinky and Mei does not explicitly teach the ability to download plug-ins.

However, Cardei teaches the computer program where the quality-of-service broker includes further functionality for downloading plug-ins corresponding to a given version of a

data model which can not be handled by the application handler unit (Cardei, page 421, paragraph 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zinky and Mei in view of Cardei in order to enable the ability to download plug-ins. One would be motivated to do so in order to facilitate the use of a new model by replacing a set of components that interface with the application without rewriting the entire program.

32.   With respect to claim 42, Zinky teaches the invention described in claim 41, including a computer program, stored in a tangible storage medium, for managing quality of service, the program representing middleware and comprising executable instructions that cause a computer to:

Configure an application programming interface (Zinky, col. 9, lines 47-50) as a data model describing quality-of-service contracts (Zinky, col. 5, line 66 – col. 6, line 4) and quality-of-service adaptation paths (Zinky, col. 8, lines 48-56) as specified by quality-of-service aware mobile multimedia applications (Zinky, col. 2, lines 61-63) using the application programming interface, in order to manage quality-of-service and mobility-aware for managing network connections with other applications (Zinky, col. 6, lines 22-30).

Zinky does not explicitly teach where the middleware is adapted to negotiate with communication peers.

However, Mei teaches where a quality-of-service adaptation path defines an adaptation policy identifying quality-of-service specifications (Mei, col. 5, lines 44-54) and allows

quality-of-service changes (Mei, col. 7, lines 41-44), and where the middleware is adapted (Mei, col. 5, lines 23-28) to negotiate with communication peers to generate adaptation paths (Mei, col. 7, lines 11-30), to measure the actual quality-of-service (Mei, col. 5, line 66 – col. 6, line 2), and to solve any quality-of-service problem by deciding which of the possible adaptations to perform (Mei, col. 7, lines 11-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zinky in view of Mei in order to enable the middleware to be adapted to negotiate with communication peers. One would be motivated to do so in order to facilitate the use of differentiated services, which are especially effective in gaining customer loyalty when traffic is heavy and it is desirable for a customer to have fast access to Web content.

Zinky teaches a computer program, stored in a tangible storage medium, for managing quality of service, the program representing middleware and comprising executable instructions that cause a computer to:

Configure an application programming interface (Zinky, col. 9, lines 47-50) as a data model describing quality-of-service contracts (Zinky, col. 5, line 66 – col. 6, line 4) and quality-of-service adaptation paths (Zinky, col. 8, lines 48-56) as specified by quality-of-service aware mobile multimedia applications (Zinky, col. 2, lines 61-63) using the application programming interface, in order to manage quality-of-service and mobility-aware for managing network connections with other applications (Zinky, col. 6, lines 22-30).

Zinky does not explicitly teach where the middleware is adapted to negotiate with communication peers.

However, Mei teaches where a quality-of-service adaptation path defines an adaptation policy identifying quality-of-service specifications (Mei, col. 5, lines 44-54) and allows quality-of-service changes (Mei, col. 7, lines 41-44), and where the middleware is adapted (Mei, col. 5, lines 23-28) to negotiate with communication peers to generate adaptation paths (Mei, col. 7, lines 11-30), to measure the actual quality-of-service (Mei, col. 5, line 66 – col. 6, line 2), and to solve any quality-of-service problem by deciding which of the possible adaptations to perform (Mei, col. 7, lines 11-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zinky in view of Mei in order to enable the middleware to be adapted to negotiate with communication peers. One would be motivated to do so in order to facilitate the use of differentiated services, which are especially effective in gaining customer loyalty when traffic is heavy and it is desirable for a customer to have fast access to Web content.

The combination of Zinky and Mei does not explicitly teach the ability to download plug-ins.

However, Cardei teaches the computer program where the quality-of-service broker and the plug-ins are forming a quality-of-service broker cluster (Cardei, page 421, paragraph 6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Zinky and Mei in view of Cardei in order to enable the ability to download plug-ins. One would be motivated to do so in order to facilitate the use of a new model by replacing a set of components that interface with the application without rewriting the entire program.

Response to Arguments

33. Applicant's arguments filed 30 September 2005 have been fully considered, but they are not persuasive for the reasons set forth below.

34. *Applicant Argues:* Applicant states, "Specifically, Zinky fails to teach or suggest the concept of a QoS adaptation path."

In Response: The examiner respectfully submits that Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

35. *Applicant Argues:* Applicant states, "since Cardei is cited merely for functionality of downloading plug-ins corresponding to a given version of a data model which cannot be handled by the application handler unit, it is maintained that Zinky and Cardei, individually or in combination, fail to teach or suggest all the limiatations of claims 41 and 42."

In Response: The examiner respectfully submits that Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at 7:30am - 5pm, Monday - Thursday, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alicia Baturay
January 9, 2006

SALEH NAJJAR
SUPERVISORY PATENT EXAMINER